

Remarks/Arguments

The present amendment is made in response to the final Office Action dated May 19, 2005, identified as Paper No. 20050418. Claims 17-24 are pending in the application.

In the Action, the Examiner withdrew claims 11-14 and 17-23 as drawn to a non-elected species. The Examiner also objected to the drawings as including a reference number not mentioned in the description. Claim 24 was rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,532,681 to Baker ("*Baker*").

With regard to the withdrawal of claim 11-14, Applicant withdrew these claims in a previous Amendment.

With regard to claims 17-23, the Examiner has apparently construed claim 17 to necessarily require a separate and independent structure that forms the obstacle, rather than a structure formed in or on the upper surface of the metal pad. To clarify, Applicant has amended claim 17 to recite an obstacle formed along said upper surface, thereby encompassing both integral and separate structures, as seen in Figs. 3a and 4.

With regard to the objection to the drawings, Applicant has amended the specification to include the reference numeral 27.

With regard to the rejection in view of *Baker*, the reference does not disclose the structure currently recited in the pending claims, when they are properly construed according to well-established principles. MPEP § 2111 ("During patent examination, the pending claims must be 'given their broadest reasonable interpretation *consistent with the specification*.' *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000)") (emphasis added). Rather than construe the claims in light of the specification, as dictated by MPEP § 2111, the Examiner has improperly interpreted well-known terms of art to apply to any metal pad, any solder joint, and

any substrate in any field of endeavor. MPEP § 2111 (“The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999)”) (emphasis added).

Baker does not disclose a **solder joint** for interconnecting **an electronic chip** to a **substrate**. As clearly set forth in the present application, the term “solder joint” refers to a conventional integrated circuit solder bump that interconnects an “electronic chip,” *i.e.*, an integrated circuit, to a “substrate,” *i.e.*, a printed circuit board or other electronic substrate which accepts an electronic chip.

No one of ordinary skill in the art reading the claim in light of the specification would think that the claims encompass a set belt connection having two metal flanges that are welded together, as seen in *Baker*. In fact, *Baker* appears to depict a layer of special adhesive alloy positioned between flat pieces of steel having undulation on their inner surface. Notably, *Baker* **never explains the nature of the structure depicted in Fig. 5.**

Baker also fails to disclose a “metallic pad” (also referred to as a “solder pad”) having a substantially planar lower surface for engaging the “substrate” as required by the claimed invention. The term “metal pad” is also a term of art in the integrated circuit field of endeavor that refers to the metal bonding pad of a printed circuit board that electrically interconnects a chip to the circuits of the printed circuit board. Even if *Baker* had a “substrate” as that term is used in the present application, *Baker* clearly lacks a “metal pad” as that term is used in the present application and known to those of ordinary skill in the art. *See* MPEP § 2111.01. It is highly doubtful that one of ordinary skill would ever contemplate that the metal piece of *Baker* is

equivalent structure to the highly specialized metal bonding pad used to attach an integrated circuit to a printed circuit board.

Finally, *Baker* fails to disclose that “micro-cracks forming in said solder adjacent to said upper surface will encounter said obstacle.” Indeed, *Baker* contains *no explanation* of the structure depicted in Fig. 5 and thus cannot disclose or teach this express claim limitation. *Baker* does not recognize that microcracks are a problem. Indeed, it is doubtful that microcracks even occur in *Baker* (or are even a problem), because *Baker* is directed to seat belt technology that does not involve the microscopic structures involved in integrated circuit technologies that must maintain viable electrical connections. Due to the inherent size of the structure shown in Fig. 5, it is doubtful that the binding material 44, if it even qualifies as “solder,” would disrupt microcracks forming along the intermetallic boundary as currently recited in the claims of the present application.

The filing fee for this Request for Continued Examination is to be charged to Applicant’s Deposit Account Number 09-0457, and a check to cover the charge for the enclosed Petition for a One Month Extension of Time is enclosed. In addition, we had previously filed a Change of Correspondence Address however, the Patent Office inadvertently sent the office action to Applicant’s prior counsel and it therefore did not reach Applicant’s present counsel until well after it was mailed by the Patent Office. As the Change of Correspondence was filed in this application well before the Patent Office mailed the office action to which this RCE is filed, Applicant respectfully requests a refund of the \$110 fee for the One Month Extension of Time as it was caused through the Patent Office’s error of sending the Office Action to the incorrect address.

Reply to Office Action dated May 19, 2005
Application Serial No. 10/038,264
RCE and Submission dated August 31, 2005

In view of the foregoing amendments, the Examiner's reconsideration and allowance of the present application is believed to be in order. If the Examiner believes a phone conference with Applicant's attorney would expedite prosecution of this application, please contact the undersigned at (315) 218-8515.

Respectfully submitted,

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